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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,589	10/01/2003	Frank Bergmann	M&N-IT-490	7994

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EXAMINER

LIN, TINA M

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,589

Applicant(s)

BERGMANN ET AL.

Examiner

Tina M. Lin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/1/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,793,406 to Edwards et al.

In regards to claim 1, Edwards et al discloses a connecting area (11/12) for connecting a transmitting or receiving module (12), a holding area (20/21) for holding an optical fiber (14) and a coupling area (35) for directly coupling the light between the optical fiber and the module when the fiber is inserted into the holding area. (Figure 1)

But Edwards et al fails to explicitly state the coupling area is transparent. However, Edwards et al does disclose the coupling area to be formed from a glass material. By definition, glass is “any of a large class of materials with highly variable mechanical and optical properties that solidify from the molten state without crystallization, are typically made by silicates fusing with boric oxide, aluminum oxide, or phosphorus pentoxide, are generally hard, brittle, and **transparent or translucent**, and are considered to be supercooled liquids rather than true solids” (*The American Heritage® Dictionary of the English Language, Fourth Edition*) Although Edwards does not explicitly state the coupling area to be transparent, by definition, the material glass Edwards et al discloses is a transparent material, so therefore it would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to have a transparent coupling area.

In regards to claim 2, Edwards et al discloses all discussed above and further discloses the coupling area having side facing the holding area and a projecting stop (32) for the optical fiber, where the stop surface directly contracts the fiber core when the fiber is inserted into the holding area. But Edwards et al fails to disclose the projecting stop to be a portion of the coupling area. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a projecting stop to be a portion of the coupling area since applicant has not disclosed that a projecting stop on the coupling area solves any stated problem or is for any particular purpose and it appears the invention would work equally as well with the projecting stop as part of the ferrule, as disclosed by Edwards et al.

In regards to claim 3, Edwards et al discloses all discussed above and further discloses the holding area to have a longitudinal axis and the stop surface to run at right angles to the longitudinal axis of the holding area.

In regards to claim 4, Edwards discloses all discussed above and further discloses the optical fiber to have similar to the refractive index of the coupling area. Although Edwards et al does not explicitly state the refractive indexes to match, Edwards et al discloses a value to be similar which would lie very near two matched refractive indexes. Since it is difficult to exactly match the refractive indexes due to a margin of error, a similar value of the two refractive index values would fall within the margin of error. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have matched the refractive indexes of the two materials as closely and similarly as possible.

In regards to claim 5, Edwards et al discloses all discussed above and further discloses the coupling area to have a side facing the module. But Edwards et al fails to disclose the side facing the module to have an inclined light inlet or outlet surface. However, Edwards et al does disclose an angled inlet surface (58) of light not part of the coupling area. This angled inlet and outlet of light in order to control the amount of light reflected. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have side facing the module to have an inclined light inlet or outlet surface since they both perform the same function and Applicant has not disclosed that a projecting stop on the coupling area solves any stated problem or is for any particular purpose and it appears the invention would work equally as well with the inclined angle placed as suggested by Applicant or placed as disclosed by Edwards et al.

In regards to claim 7, Edwards et al discloses all discussed above and further discloses a base plate surrounding a portion of the elongated ferrule with two portions running horizontally with the coupling area.

In regards to claim 8, Edwards et al discloses all discussed above and further discloses a holding area (20/21) with an elongated cylindrical sleeve with a precision guide. Although the precision guides are not shown in by a reference number in Figure 2, the precision guides are shown by the two-angled portion of the ferrule as the fiber enters the holding portion.

In regards to claim 9, Edwards et al discloses all discussed above and further discloses a holding area designed to hold a ferrule having a center configured with the optical fiber. But Edwards et al fails to disclose the ferrule to be a ceramic ferrule. Edwards et al is silent on the material of the ferrule. Since the use of a ceramic ferrule is widely used for holding optical

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fibers and since a ceramic ferrule is a non-electrically conductive material, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a ceramic ferrule.

In regards to claim 10, Edwards et al discloses all discussed above and further discloses the connecting area to be essentially cylindrical.

In regards to claim 11, Edwards et al discloses all discussed above and further discloses the connecting are designed to connect to a transmitting and/or receiving module.

In regards to claim 12, Edwards et al discloses all discussed above and further discloses a base plate surrounding a portion of the elongated ferrule/holding area with two portions running horizontally with the coupling area. Furthermore, the two portions running horizontally with the coupling area are not joined or connected though the base plate and therefore provide a cutout funning adjacent to the coupling area of the base plate.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,793,406 to Edwards et al as applied to claim 1 above and in further view of Applicant submitted reference Germany 33 16 236 A1 to Roberts. Edwards et al discloses all discussed above but fails to disclose the coupling unit to be transparent injection molded part. However, Roberts discloses a similar module where an optical fiber is coupled to at least two optical elements and fitted into holding and connecting areas through a transparent block. Roberts et al further discloses the coupling unit to be injection molded. Since Edwards et al is silent on the process the coupling unit is made and Roberts discloses a similar module with the coupling unit injection molded, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have injection molded the coupling unit.

Prior Art

The documents submitted by applicant in the Information Disclosure Statement have been considered and made of record. Note attached copy of form PTO-1449.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Lin whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Handwritten signature of TML.



AKM ENAYET ULLAH
PRIMARY EXAMINER